
PSC 506
Advanced Topics in Methods

Spring 2014
2:00-4:40 T
LeChase 181

Kevin A. Clarke
Harkness 317
Office Hours: make appointments by email
kevin.clarke@rochester.edu
275-5217

PREREQUISITES

Students must have taken PSC 404, 405, and 505 or their equivalents. Students with alternative backgrounds need my permission to take the course.

COURSE REQUIREMENTS

- **Participation and Weekly Assignments (50%).** Students will be responsible for having done the required readings, presenting articles, and vigorously participating in discussions. Applied exercises will be assigned occasionally, and students are expected to have completed the assignment and be prepared to present their results in class.
- **Final Paper (50%).** A final paper due during the final period determined by the University. Students will present this work during the final two weeks of the course.

COURSE SCHEDULE AND READINGS

Readings, usually articles, will generally be available from the course web site (<http://www.rochester.edu/College/PSC/clarke/506/506.html>). You may want to find, in the library or elsewhere, a modern econometrics text that provides an introduction to these topics. Students will use the R programming language for much of this course. As such, you may want to purchase or find access to the following texts on R:

- Fox, John. *An R and S Plus Companion to Applied Regression*. Sage.
- Venables, W.N. and B.D. Ripley. *Modern Applied Statistics with S*. 4th edition. Springer.

- January 21: Philosophical Bayesianism
- January 28: Basics of statistical Bayesianism
- February 4: Conjugacy and weird distributions
- February 11: Sampling
- February 18: MCMC
- February 25: Hypothesis testing
- March 4: Linear regression model
- March 18: Generalized regression model
- March 25: Hierarchical linear models
- April 1: Model comparisons
- April 8: Mixture models
- April 15: Missing data
- April 22: Student presentations
- April 29: Student presentations